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CPF

APPLICATIONS BEING PREPARED

Philip Morris Incorporated
Privileged and Confidential

25 January 1980

Code 1 - Offensive/Urgent
Code 2 - Defensive/Urgent
Code 3 - Offensive/Normal
Code 4 - Defensive/Normal

703 AMINE-OLEFIN-ALCOHOL RELEASE AGENTS

J. Seeman/R&D/Chemical Research Division/Sanders/Osdene

This invention involves the use of quaternary ammonium salts added to tobacco or nontobacco smoking material or combinations thereof to release an amine and an olefin or alcohol during the smoking process. Additional benefits (e.g., humectant properties, filler stability, etc.) may also be derived. The released compounds will be of value for flavor and aroma. The amine could be nicotine or any other alkaloid, but not necessarily an alkaloid. The olefin could be ethene or a di-olefin (a diene) such as isoprene. The alcohol could be methanol, ethanol, etc. If the amine is a polyamine, one or more of the amino nitrogens could be utilized.

Related to 942.

D&O/Hutcheson
CODE 3

10-15-75	Disclosure received.
1976	Inactivated.
8-79	Further disclosure details received.
8-14-79	Reactivated as a result of extensive examples and smoking data submitted by inventor.
9-14-79	Disclosure sent to D&O for application preparation.
10-10-79	Additional pertinent art sent to D&O.
10-29-79	Comments on Depaoli references sent to inventor.
11-16-79	Inventors' comments received; combined with SAH's and sent to D&O.
12-7-79	Depaoli's comments on prior art and draft claims received.
12-26-79	Redraft received--to inventor for review.
1-2-80	Related case 942 sent to Depaoli.
1-25-80	Review and comments almost completed.

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750 PROCESS FOR IMPROVING FILLING POWER OF EXPANDED TOBACCO

H. Merritt and L. Sykes/R&D/Tobacco Materials Development Division/Burns/Gannon

Tobacco which has been expanded by a conventional expansion process undergoes further increase in filling power when it is given an additional treatment, under certain conditions, with hot air or with superheated steam. This additional treatment is preferably at a lower temperature than the temperature of the first expansion step, and thus can be more easily controlled. The product, while having substantially increased filling power, has been found equally acceptable in subjective smoking tests, to the product without such additional treatment.

WLKT/Kothe/Inskeep
CODE 1 (may be changed to a CODE 2 status)

9-16-76	Disclosure received.
11-17-77	Disclosure sent to WLKT for application preparation.
2-16-78	Discussed between Kothe, Merritt, Inskeep.
7-24-78	First draft application received--forwarded to inventors for review.
10-5-78	Corrections/comments sent to WLKT.
11-17-78	Discussed with Merritt and Sykes; Merritt redoing draft.
12-6-78	Meeting between Kothe and Merritt; Kothe will redraft.
4-79	References, etc. to Kothe.
9-5-79	Research data sent to WLKT.
11-19-79	Discussion between Kothe/inventors re current information, appraisal.

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761 FIRMNESS CONTROL IN A CIGARETTE MAKER

J. Nienow, F. Sherwood, C. Irving, J. Osmalov, and T. Laszlo/R&D/Tobacco Services Division/Osmalov/Gannon

A practice for controlling cigarette rod firmness in a cigarette maker wherein a detected cigarette rod firmness signal is corrected for firmness variations resulting from changes in rod moisture relative to a preselected or target moisture via a suitably processed detected moisture signal and the corrected firmness signal is compared with a preselected or target firmness to derive an error signal for tobacco content control.

Related to 784.

WLKT/Torrente/Sarofeen

FILED CODE 1

12-8-76	Disclosure received.
8-77	Disclosure sent to WLKT for application preparation.
11-2-77	First draft application received--sent to Osmalov and Laszlo for review.
6-78	Awaiting more information.
3-28-79	Redraft received--sent to inventors for review.
5-15-79	Corrections/comments sent to WLKT.
8-27-79	These cases (PM 761 and 784) involving a system of better control of moisture content and consequently more positive control of filler cost and the quality of firmness control are constantly inthe forefront of my attentions and I continue to advance them toward filing whenever possible. There is some discourse centered around the need to include the detailed computer programs which is not now available and may not be written for a while. I am advocating a position of filing with the use of block diagrams and I may be gaining some ground in this direction with John Torrente.
10-24-79	Redraft received--to inventors for review.
11-2-79	Corrections sent to WLKT.
11-20-79	Final draft in preparation.
12-4-79	Executed and mailed to WLKT for filing.

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774 EXPANDED, STIFFENED STEMS

N. Rainer and D. Siwiec/R&D/Tobacco Materials Development Division/Burns/Gannon

Tobacco stems, preferably burley, are treated with a concentrated aqueous solution of a divalent salt of a metal such as calcium, magnesium, zinc, or aluminum. The chloride, acetate, or nitrate salts of said metals are acceptable. The salt impregnated stems are then treated with a concentrated solution of hydrogen peroxide and ammonia followed by washing and drying. Stems treated according to this process maintain their expanded state and have significantly increased filling capacity; for example 150-170 cc per 10 grams for untreated stems.

Hutcheson
CODE 1

4-30-77	Disclosure received.
10-14-77	Literature search requested.
10-14-77	Rainer's comments on prior art received.
11-21-77	Search completed.
2-78	Preparation of application begun.
7-78	Completion report received from inventors.
8-79	Inventors have indicated that additional data from pilot plant expansion studies will be completed by the end of September.

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779 CIGARETTE FILLER ROD FIRMNESSS CONTROLLER

J. Osmalov/R&D/Tobacco Services Division/Osmalov/Gannon

A cigarette rod firmness control device has a firmness detector head comprising a differential transformer coupled to a detector shoe, which is biased toward and rides on a dynamically-flowing rod of tobacco. The detector shoe is displaced to and from the axial center line of the tobacco rod in response to the firmness of the rod, which is dependent on the rate of flow of tobacco into the rod forming garniture. The tobacco feed rate into the rod forming garniture is increased or decreased in response to signals generated by the level and the variations of rod firmness at the detector shoe to control rod firmness to within desired limits.

WLKT/Brandt/Sarofeen
CODE 3

5-25-77	Disclosure received.
3-20-79	Draft application sent to WLKT for final preparation.
1-24-80	Very close art; studying advisability of filing.

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784 MOISTURE CONTROL AT A CIGARETTE MAKER

J. Osmalov/R&D/Tobacco Services Division/Osmalov/Gannon

The moisture content of the cigarette rod of a cigarette maker is controlled by sensing the rod moisture content and utilizing the sensed moisture content to adjust the moisture content of the input tobacco to the maker.

Related to 761.

WLKT/Torrente/Sarofeen

FILED CODE 1

7-25-77 Disclosure received.
11-13-78 Memo from GMJS recommending filing ASAP.
8-27-79 These cases (PM 761 and 784) involving a system of better control of moisture content and consequently more positive control of filler cost and the quality of firmness control are constantly inthe forefront of my attentions and I continue to advance them toward filing whenever possible. There is some discourse centered around the need to include the detailed computer programs which is not now available and may not be written for a while. I am advocating a position of filing with the use of block diagrams and I may be gaining some ground in this direction with John Torrente.
11-20-79 Final draft in preparation.
12-19-79 Draft received.
1-3-80 Executed and mailed to WLKT for filing.

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791 EXPANSION PROCESS FOR UNCURED TOBACCO

N. Rainer, G. Bokelman, J. Hearn/R&D/Tobacco Materials Development Division/Burns/Gannon

Homogenized green tobacco leaf and/or stem are incubated at about 40° C for 20 hours in the presence of a flow of air. The homogenized leaf cured (hereinafter HLC) is then treated with an alkaline hydrogen peroxide solution followed by washing. The expanded HLC is roasted at about 200° C to achieve a 5% weight loss. the resultant HLC has a significantly increased filling capacity, improved appearance and smoking qualities.

Related to 797 and 774.

Hutcheson
CODE 3

10-14-77 Disclosure received.
11-77 Search completed.
7-78 Completion report received from inventors.
9-11-79 Search requested from outside firm.
10-15-79 Search received; results being evaluated.

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797 PROCESS FOR INCREASING THE FILLING POWER OF TOBACCO STEM MATERIAL

N. Rainer and J. Hearn/R&D/Tobacco Materials Development Division/Burns/Gannon

RKS treated with ozone followed by treatment with alkaline hydrogen peroxide to effect expansion. Stems are then roasted to obtain 3 to 75% weight loss.

Related to 791 and 774.

Hutcheson
CODE 3
10-28-77 Disclosure received.
Search completed.
7-78 Completion report received from inventors.

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803 RHEOMETER

G. Mathe/R&D/New Cigarette Products Division/Meyer/Gannon

A special construction permits incorporation of foaming agent into polymer in the rheometer for determination of rheological properties of the foamed material.

WLKT/Brandt/Sarofeen
CODE 2
11-23-77 Disclosure received.
2-20-78 Preliminary search completed.
5-25-78 Search requested from outside firm.
3-20-79 Disclosure sent to WLKT for application preparation.
11-20-79 Drafted and will be gone over December 3 on Brandt's visit.
1-24-80 Brandt is reviewing draft for discussions.

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807 IMPROVED FLAVOR FORMULATIONS FOR RECONSTITUTED TOBACCO

F. Daylor, Jr., H. Spielberg, J. Swain, D. Keel/R&D/Flavor Development Division/Daylor/Gannon

An improved flavoring formulation especially for reconstituted tobacco makes the product at least equally acceptable to smokers as more conventional flavoring, while substantially diminishing the proportion of soluble additives which lower the filling power of the product. Components of the formulation are diammonium phosphate, cocoa shell powder, carob beans, urea, valerian root powder, and sweetener.

Inskeep
CODE 2

12-12-77 Disclosure received.
9-5-78 Discussed with Keel; asked Swain to locate test results, recent findings.
1-23-79 Discussed further with Keel and Swain; patentable aspects; specified test results, e.g. smoking tests, SEF, CV.
4-20-79 Discussed with Spielberg; still lacking test results.
6-25-79 Memo to inventors requesting test results, if any.
7-19-79 Further results, examples received from inventors.
8-9-79 First draft application sent to inventors for review.
9-79 Fill-in data being gathered.
10-10-79 Swain's comments on draft received.
10-26-79 Gannon's comments received.
10-29-79 Redraft completed; advisability of filing being considered.

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808 REDUCTION OF NO IN TOBACCO SMOKE AND DENITRATION OF TOBACCO

G. Keritsis and H. Merritt/R&D/Tobacco Materials Development Division/ Burns/Gannon

Tobacco materials, and particularly tobacco strip and/or leaf, are subjected to a rapid washing step wherein a substantial amount of potassium nitrate may be removed from the tobacco. When the washing step is carried out under carefully controlled conditions, optimum results are achieved with minimal loss of desirable tobacco solubles. Moreover, we have found that when potassium salts are restored back to the washed tobacco up to a level coinciding essentially with the original potassium level of the tobacco, an even greater reduction of nitrogen oxides in the smoke may be realized. While others have taught that the removal of metallic ions such as potassium is desirable, we have found that in order to realize maximum reduction of nitrogen oxides in denitrated tobacco, it is essential that the potassium ion content be restored to about its original level in the tobacco.

Related to 867 A&B.

Hutcheson
CODE 1

12-6-77	Disclosure received.
1-22-79	Draft application sent to inventors for review.
1-26-79	Draft discussed with inventors--revising in view of new data and examples received from inventors. Filing being coordinated with 867 which is being prepared by WLKT.
8-79	Additional discussions with inventors in order to place in condition for filing.
11-6-79	Discussed case in detail with T. Gillis and Keritsis as well as coordination of PM 867 A and B. Analytical data being obtained for all cases. Target filing date by end of December.
1-25-80	Redraft to be sent to inventors/manager/director for review wekk of January 28.

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814 FILLER EXPANSION WITH WATER (OVERDRYING OF HIGH MOISTURE TOBACCO FILLER)

P. Aument, R. de la Burde, F. Utsch/R&D/Tobacco Materials Development Division/Burns/Gannon

A means of increasing the filling power of tobacco, by expansion of cut tobacco, cut filler or the like is achieved by means of wetting said tobacco and equilibrating the moisture content in said tobacco beyond that which is normally encountered in processing. The moisture laden tobacco is then rapidly dried in a turbulent steam atmosphere to an overdried state and then remoisturized to a conventional processing moisture content.

WLKT/Plautz/Inskeep
CODE 2

2-6-78	Disclosure received.
10-12-78	Draft disclosure completed--sent to inventors for review.
10-27-78	Disclosure sent to WLKT for application preparation.
7-30-79	First draft application received--sent to inventors for review.
8-24-79	Inventors' comments received--sent to WLKT.
9-14-79	Comments and corrections for first draft went to WLKT
1-24-80	Redraft promised this month.

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818 CONVENTIONAL DILUTION CIGARETTE CONTAINING SINGLE OR SEVERAL ROWS OF VENTS PLACED TOGETHER ON NARROW SYMMETRICAL BAND

A. Kassman and W. Geiszler, Jr./R&D/New Cigarette Products Division/Gannon /Meyer/Physical Research Division/Kassman/Lowitz/Farone

This invention relates to a filter cigarette having inlet vents in the filter mouthpiece divided into two groups. The distance between the two groups of inlet vents is selected to give an increased resistance to draw without appreciably decreasing dilution or total particulate matter.

Blish
CODE 1

3-8-78	Disclosure received. Awaiting more information.
1-9-79	Brief review with inventors.
4-25-79	Peculiar results, test being redone; then ready to go.
7-23-79	Revised data received.
11-13-79	First draft completed; sent to inventors for review.
1-4-80	Final draft completed; additional information on minimum spacing requested from inventors.

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832 INCREASING THE FILLING POWER OF RECONSTITUTED TOBACCO BY HEAT TREATMENT

J. Banyasz/R&D/Biomaterials Science Group/Lowitz/O'Dononhe/Farone

The filling power of reconstituted tobacco is improved by rewetting the material to about 40% OV and heating for an extended time.

WLKT/Reinisch/Inskeep

INACTIVE CODE 1

5-15-78 Disclosure received.
8-11-78 Additional information received from inventor.
10-26-78 Draft disclosure to inventor and director for review.
11-10-78 Disclosure sent to WLKT for application preparation.
5-31-79 Request for information; answers from WLKT.
8-7-79 Additional information received from inventor; sent to WLKT.
9-6-79 Additional information received from inventor; sent to WLKT. Particular interest and priority indicated. Reinisch estimates early October.
10-30-79 Questions received from WLKT--to inventor.
12-18-79 Inactivated pending further experimental work.

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854 TORUS INJECTION ZONE SEPARATOR

R. Thatcher, H. Odom, R. Edwards/Manufacturing Engineering/Pasquine

Torus fan used for cigarette ripper pad separation and pneumatic conveying to provide an improved method of tobacco leaf laminar, laminar and stem, and stem separation using the lowest energy required and to improve equipment efficiency.

WLKT/Brandt/Sarofeen

3-78 Disclosure received (disclosure received in March but not logged in until October because it was misplaced by Mr. Sarofeen.
11-3-78 Partial disclosure made to WLKT--still in development.
5-15-79 Copy of disclosure sent to inventors for revision.
8-9-79 Disclosure sent to WLKT for application preparation.
9-24-79 PM 841 combined herewith.
11-20-79 Final draft now in preparation.
11-29-79 Working draft of combined 841/854 received.
12-1-79 Draft sent to inventors for review.
1-24-80 Brandt is revising draft per discussions.

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855 METHOD OF SPLITTING A CONVERGING LIGHT BEAM INTO MULTIPLE BEAMS

P. Martin, U. Brooks, W. Claflin, A. Lilly, E. Stultz/R&D/Physical Research Division/Kassman/Lowitz/Farone/Manufacturing Engineering/Pasquine

Collimated beam is prefocused and chopped at the focus. Both transmitted and reflected beams are subdivided by angled reflectors whose position is adjustable to balance power in the final beams. A preferred mode would use a rapidly diverging beam to allow the beam to be mor easily subdivided.

WLKT/Sarofeen
CODE 2
10-18-78 Disclosure received.
4-79 Disclosure sent to WLKT for application preparation.
1-24-80 This case may now be advanced for preparation.

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867A METHOD FOR SELECTIVE DENITRATION OF TOBACCO

G. Keritsis/R&D/Tobacco Materials Development Division/Burns/Gannon

This invention relates to a method for maximizing reduction of delivery of nitrogen oxides in tobacco smoke. In accordance with the invention, tobacco is denitrated chemically in a manner which selectively removes nitrate ions from tobacco extract without substantially reducing the potassium ion level. By leaving the potassium ion level substantially intact, a greater reduction in delivery of oxides of nitrogen is achieved than if the potassium ions are removed along with the nitrate ions.

Divided out of 808; also related to 867B.

WLKT/Gillis/Hutcheson
1-15-79 Disclosure received.
1-15-79 Disclosure sent to WLKT for application preparation.
3-79 Conference with Gillis.
6-25-79 First draft application received--sent to inventor for review and example completion.
8-17-79 Extensive comments and additional examples submitted by inventor.
9-19-79 Comments, corrections, and examples for first draft sent to WLKT.
10-30-79 867A redraft received.
11-6-79 Both drafts discussed in detail with T. Gillis and Keritsis; PM 867B relates to removal of KNO_3 via improved electrodialysis techniques. Analytical data being completed; target filing date - end of December.
12-28-79 Redraft received--to inventor/manager for review.
1-18-80 Corrected draft returned to WLKT.
1-25-80 Drawings being prepared by WLKT; application ready to file when drawings are completed.

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867B METHOD FOR SELECTIVE DENITRATION OF TOBACCO

G. Keritsis/R&D/Tobacco Materials Development Division/Burns/Gannon

This invention relates to a method for maximizing reduction of delivery of nitrogen oxides in tobacco smoke. In accordance with the invention, tobacco is denitrated chemically in a manner which selectively removes nitrate ions from tobacco extract without substantially reducing the potassium ion level. By leaving the potassium ion level substantially intact, a greater reduction in delivery of oxides of nitrogen is achieved than if the potassium ions are removed along with the nitrate ions.

Divided out of 808 then 867A.

WLKT/Gillis/Hutcheson

11-1-79 Draft received.

11-6-79 Both drafts discussed in detail with T. Gillis and Keritsis; PM 867B relates to removal of KNO_3 via improved electrodialysis techniques. Analytical data being completed; target filing date - end of December.

12-28-79 Redraft received--to inventor/manager for review.

1-18-80 Corrected draft returned to WLKT.

1-25-80 Drawings being prepared by WLKT; application ready to file when drawings are completed.

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877 MICROWAVE MEASUREMENT OF TOBACCO OV

D. Steinbrecher/R&D/Steinbrecher Corporation

A method for the measurement of the OV content of a tobacco rod which employs a side wall coupled X-band microwave cavity.

WLKT/Torrente/Sarofeen
Priority treatment indicated by Sarofeen.

2-27-79 Disclosure received.
4-79 Search received from outside firm.
4-79 Evaluation by W. Nichols in progress.
8-6-79 Memo from A. Palmer re status.
8-9-79 Disclosure sent to WLKT for application preparation--priority treatment indicated.
8-27-79 This case is somewhat affiliated with 761/784 in that it is a very reliable and precise method of gaging moisture content in tobacco. I have been studying to distill out a comprehensive and viable approach to patent coverage over the prior art for some time. I have given this case serious deliberation since this technique is apt to be important commercially to PM in more than this area of process control. I have forwarded this case to John Torrente at WLK&T with the best results of my efforts to date including search data and references and had requested that it be formed up into a patent application.
10-16-79 Draft application received.
11-20-79 Final draft now in preparation.
12-13-79 Redraft sent to Steinbrecher.

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883A CHIRAL NICOTINE ANALOGUES AND A PROCESS FOR THEIR PRODUCTION

C. Chavdarian and E. Sanders/R&D/Chemical Research Division/Sanders/Osdene

The present invention relates to a novel process for the preparation of enantiomerically pure nicotine analogues containing alkyl substituents on the pyridine ring at the 4, 5, and/or 6 positions. The invention also relates to intermediate compounds useful for the preparation of such nicotine analogues which analogues are useful as insecticides.

Divided out of 883A.

D&O/Hutcheson
CODE 4

3-30-79 Disclosure received.
5-31-79 Disclosure sent to D&O for evaluation and application preparation.
7-2-79 First draft application received--sent to inventor for review.
8-1-79 Inventors comments received--sent to D&O.
9-4-79 Redraft received--to inventor for review with request for additional comparative insecticidal activity.
10-16-79 Redraft with corrections sent to D&O.
11-12-79 Sander's comments on draft sent to D&O.
11-20-79 Draft revision underway; filing target date - mid December.
11-29-79 Redraft received--to inventors for review.
12-79 883A relating to racemic 5-methyl nicotine was split out as 883B. Filing delayed until 883B is completed.
12-14-79 Inventors comments on draft received.
12-31-79 Redraft received--to inventors for review.
1-25-80 Application approved by inventors and ready to file.

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883B RACEMIC 5-METHYL-NICOTINE

E. Sanders and J. Seeman/R&D/Chemical Research Division/Sanders/Osdene

Relates to novel nicotine analogs containing alkyl substituents on the pyridine ring at the 5 position and a process for the preparation of these analogs. The novel compounds of the present invention are useful as insecticides.

Split out of 883

D&O/Hutcheson

12-3-79 First draft received--to inventors for review.
1-25-80 Inventors have completed experimental data for incorporation into draft. Corrected draft and examples to be retyped and sent to Depaoli.

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884 CURING GREEN TOBACCO LEAVES BY TREATING WITH SULFUR DIOXIDE

D. Gooden, G. Bokelman, and G. Keritsis/R&D/Tobacco Materials Development Division/Burns/Gannon

The process simply involves the exposure of tobacco material to sulfur dioxide gas in a closed chamber or vessel. After exposure to sulfur dioxide, unpressed green mature tobacco leaf required approximately 15 minutes to become light brown, while pressed (but dry) green tobacco material reached a comparable color in approximately 45 minutes. The color obtained is an acceptable flue-cured or burley color.

WLKT/Gillis/Inskeep
CODE 2

4-4-79	Disclosure received.
6-20-79	Asked Bokelman for analytical or subjective results.
6-28-79	Note from Bokelman re additional work.
6-79	Search performed in our files--intend to proceed with draft.
9-11-79	Search requested by SAH from outside firm.
9-27-79	Disclosure sent to WLKT.
10-12-79	Transcribed disclosure received from WLKT for verification.
10-15-79	Search received; results being evaluated.
10-26-79	Corrected transcript sent to WLKT; waiting for disclosure PM 827 etc.

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886 CURING GREEN TOBACCO LEAVES BY PHOTOBLEACHING

D. Gooden and G. Bokelman/R&D/Tobacco Materials Development Division/Burns/Gannon

After preincubation with either steam, acetone vapors or N octyl alcohol vapors, photobleaching occurs very effectively in sunlight and has been performed with both incandescent and ultraviolet light. When photobleached, all color pigments are removed and the tobacco material becomes completely white.

WLKT/Gillis/Inskeep
CODE 2

4-4-79	Disclosure received.
6-20-79	Asked Bokelman for analytical or subjective results.
6-28-79	Note from Bokelman re additional work.
6-79	Search performed in our files.
9-11-79	Search requested by SAH from outside firm.
9-27-79	Disclosure sent to WLKT.
10-11-79	Transcribed disclosure received from WLKT for verification.
10-15-79	Search received; results being evaluated.
10-25-79	Corrected transcript sent to WLKT; waiting for disclosure PM 827 etc.

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893 CHIRAL 4' AND 4',5'-SUBSTITUTED NICOTINE ANALOGS

W. Edwards/R&D/Chemical Research Division/Sanders/Osdene

The invention relates to chiral 4' and 4',5'-substituted nicotine analogues and novel processes for their production. The compounds are useful as pharmacological, agrichemical and veterinary agents.

D&O/Hutcheson
CODE 4

5-3-79	Disclosure received.
7-19-79	Disclosure sent to D&O for patentability study.
8-14-79	Patentability study received--filing recommended--sent to inventor for review.
10-4-79	Attorney-inventor conference to review Depaoli's opinion, answer questions and determine strategy.
10-22-79	Inventor is actively pursuing synthesis and experimental work to complete data necessary to prepare an application.

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903 USE OF TOBACCO DUST IN AN RL-TYPE SHEET MAKING PROCESS

D. Lowitz/R&D/Applied Research/Lowitz/Farone

Tobacco dust too fine for RL process is extruded as fibers, coagulated; these then go into RL slurry for sheet making.

Related to 653 and 689 and portions of 641.

WLKT/Inskeep
CODE 2

5-18-79	Disclosure received.
9-20-79	PM data base search completed.
12-3-79	Disclosure sent to WLKT for application preparation.
12-11-79	Examples and notebook pages sent to WLKT.
1-4-80	Lowitz says invention has been reduced to practice with help of Keritsis--will write up methods.
1-23-80	Additional example sent to WLKT.

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904 TREATMENT OF CELLULOSIC MATERIALS WITH CELLULASE

D. Teng and B. Semp/R&D/Biomaterials Science Group/Lowitz/O'Donohue/Farone

Waste cigarette filter (cellulose acetate) is deesterified to cellulose. The deesterified material as well as cigarette paper from ripper shorts can be converted into sugar syrup by treating the materials with cellulases (such as Trichoderma viride cellulases) and cellobiase. This sugar syrup can be used in tobacco casing, carbon source for denitrifican or can be used for reaction flavor.

WLKT/Gillis/Hutcheson
CODE 2

6-8-79	Disclosure received.
8-10-79	Preliminary search completed by TIF.
8-20-79	Discussed with T. Gillis of WLKT--formal disclosure to be sent to WLKt for application preparation.
10-22-79	Disclosure sent to WLKT for evaluation and application preparation.
11-6-79	Process discussed in detail with inventors and T. Gillis.
11-13-79	Additional references sent to T. Gillis; more comprehensive search requested from TIF.
12-6-79	Patent Office search received from WLKT.
12-7-79	First draft received--to inventors.
12-18-79	TIF search sent to WLKT.
1-25-80	Review by inventors not completed yet.

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907 INTERFERENCE FEEDBACK DEVICE

J. Gregory III/Manufacturing Engineering/Pasquine

The application of a vibration, strain, or force measuring electronic device with the sensing unit attached to the structural support members which react the interference loads between the tipping knife and drum, provides a quantitative feedback indicated on an analog or digital meter of the mechanical condition of the machine device. This feedback provides the following information: (1) Qualitative evaluation of each new tipping knife assembly when installed. the system provides a set point for the minimum amount of knife interference required to initially cut the tipping paper. If the meter level exceeds the optimum set point, the concentricity of the knife system or the sharpened profile of the carbide knife blades is suspicioned. (2) Feedback to insure a minimum increase in interference with each incremental increase in knife interference required to compensate for knife wear and the subsequent dullness. (3) A fixed set point for the maximum amount of knife interference to alert personnel of required knife assembly replacement. This insures against excessive interference levels which cause grooving of the carbide drum anvils and excessive load, vibration and noise.

WLKT/Torrente/Sarofeen

6-79	Disclosure received.
8-9-79	Disclosure sent to WLKT for application preparation.
1-24-80	Torrente visit is being planned for advancing this case.

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908 CORK KNIFE ADJUSTING MECHANISM

A. Gillespie and G. Dingus/Manufacturing Engineering/Pasquine

Cigarette "cork" paper is cut by the action of a revolving knife against a revolving drum--this is an interfeence or crush cut as opposed to a slice. The interference setting is critical as it must be sufficient to cut but no more than necessary so as to prevent undue and rapid wearing of both the knife and drum. Current machinery manufactured by Molins Machine Company and others has a rought adjustment which is uncontrollable, in a fine sense, and which does not supply or accomplish a method of positively positioning the knife to its adjusted position. Neither does any system provide for repeatability between adjustments meaning the reference is lost, in a fine sense, each time an adjustment is made. Further, the entire current adjusting mechanism is dependent on skill of the person making the adjustment.

WLKT/Brandt/Sarofeen

6-79	Disclosure received.
8-9-79	Disclosure sent to WLKT for application preparation.
1-24-80	This case is being evaluated for filing by Brandt.

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911 DUAL PATH SYSTEM TO ELIMINATE BOBBIN CHANGE OVER TIME

E. Grollimund/Manufacturing Engineering/Pasquine

A dual path bobbin mount system for use on laser perforators to eliminate down time for bobbin loading. An optical system is provided which allows for shifting the perforating action from strip A to strip B simply by shifting the position of beam splitter mounted on a track.

WLKT/Brandt/Sarofeen

8-1-79 Disclosure received.
9-79 PM 900 combined herewith.
9-19-79 Search requested from outside firm.
9-27-79 Search received.
10-1-79 Disclosure and search sent to WLKT.
1-24-80 Mid-February visit planned for Brandt to advance this case.

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913 NINO

Schulthess and Krasna/FTR

A continuous process for microbial denitration of tobacco materials is disclosed. Aerobic fermentation using selected yeasts results in a tobacco product having substantially reduced NO on smoking.

Hutcheson/WLKT/Gillis

8-13-79 Disclosure received.
8-79 Copy of application as filed in Luxembourg received.
9-5-79 Copy of application given to S. Tehnet to translate.
9-18-79 Translation completed.
10-24-79 Disclosure sent to WLKT for preparation of claims.
11-19-79 Additional comments sent to T. Gillis.
1-24-80 First draft received; will review and sent to inventors.

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914 IMPROVED APPARATUS FOR THE MANUFACTURE OF FIBROUS ARTICLES

A. Gergely/R&D/New Cigarette Products Division/Meyer/Gannon

This invention is an improvement to the Filtrona NWA process.

Sarofeen

FILED 8-14-79 Disclosure received--inventor notified.
9-5-79 Disclosure assigned to Sarofeen.
1-4-80 Work on first draft continues.
1-9-80 Executed and mailed to Patent Office.

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920 FLAVORING COMPOSITION

H. Grubbs and Y. Houminer/R&D/Sanders/Osdene

Flavoring compositions capable of releasing two flavor components of vastly differing flavor properties simultaneously are disclosed. The problems associated with the volatility and threshold perception of these types of flavorants is eliminated by use of this precursor system. The precursor has no aroma and will not allow the selective migration of its flavor components from a balanced flavor formulation.

D&O/Hutcheson

10-16-79 Disclosure received - inventors notified.
10-31-79 Assigned to Hutcheson.
10-24-79 Sent to D&O for application preparation.
11-9-79 Draft application received.
11-27-79 Additional examples submitted by inventors; comments and examples sent to D&O.
12-7-79 Redraft received—to inventors.
1-18-80 Corrected draft returned to D&O.
1-25-80 A decision has been made to file separately on the esters and acids; experimental data for the acid application is being completed. Both cases should be filed in February.
1-25-80 Application received in final form; ready to execute.

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921 METHOD AND APPARATUS FOR EMBOSSING FOIL

W. David and J. Bowling/Manufacturing Engineering/Pasquine

A method and apparatus for embossing foil to produce warp-free, textured packaging sheet which comprises the forming of bosses while firmly supporting the foil on relatively rigid lands about the perimeter of the boss to be formed; and pressing the foil between the relatively rigid male and female walls of a forming cavity while interposing a sheet of yieldable material between the surface of the male portion of the cavity and the sheet of foil to produce relatively warp-free foil.

Sarofeen

10-79 Disclosure logged in - inventor notified.
10-4-79 Search requested from outside firm.
10-25-79 Search received.
11-20-79 Inventor is evaluating search results.
12-18-79 First draft begun.
12-26-79 Formal disclosure received.
1-17-80 Work on First draft continues.

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923A APPARATUS FOR BREAKING DOWN A MASS OF TOBACCO CONTAINING SOLID CARBON DIOXIDE

R. Snow and R. Guadlitz/Manufacturing Engineering/Markwood/Pasquine

A substantially horizontal grating having a plurality of substantially parallel bars extends within an enclosure that is adapted to gravitationally receive a mass of tobacco and discharge smaller tobacco particles therefrom. A plurality of rotatable shafts having a plurality of blades equally separated by spacers are disposed orthogonally over the parallel bars such that the blades are located between the parallel bars. The spacers on the shafts and the parallel bars cooperate to define a plurality of sized apertures through the grating. The blades are formed to separate portions of the mass upon rotation and to urge the portions through the sized apertures for discharge from the apparatus.

FILED WLKT/Roderick/Inskeep
10-79 Disclosure received.
10-17-79 Disclosure handed to Kothe for application preparation.
11-12-79 Rodrick here to review.
12-18-79 Draft received.
12-21-79 Executed and sent to WLKT for filing.

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923B SCREEN HOLDING APPARATUS IN A LIQUID CRYOGEN PRESSURE VESSEL

T. Mullen III, R. Hultz, T. Turner/Manufacturing Engineering/Markwood/Pasquine

In a pressure vessel of the type used for processing a product with a liquid cryogen such as the impregnation of tobacco with liquid carbon dioxide for expansion thereof, a withdrawal door, pivotally hinged to open to permit gravitational discharge of the processed product, includes a grating to support the product in the vessel when the door is closed. A wire screen mesh is disposed on the grating to permit gaseous and liquid cryogen to pass therethrough while substantially preventing product from passing therethrough. A holding apparatus includes means for securely holding the screen fixed relative to the grating at the periphery and interior surface portions of the screen, the apparatus preferably including a gridded structure for minimizing stretching and tearing of the screen during discharge of the processed product from the vessel.

FILED WLKT/Rodrick/Inskeep
12-21-79 Executed and sent to WLKT for filing.

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924 COOLING APPARATUS AND METHOD IN A LIQUID CRYOGEN TREATMENT PROCESS

H. Johnson and C. Campbell/Manufacturing Engineering/Markwood/Pasquine

The "system" to provide vapor to the recovery compressors during periods when the impregnation sequence is interrupted was installed to keep the reciprocating conveyors from overheating. If the pressure in T4 or T5 decreases below the compressor unloading pressures, and no systems are in Delay Drain Sequence, valves open between T1 vapor space and T4 and T5. This increases the pressures in the recovery vessels to load the compressors and thereby cool the compressor cylinders. This system has proven quite useful during start up conditions and during temporary maintenance periods. The "system" consists of two automatic valves (one each in T4/T5 header) and a tie in to the Modicon to control valve actuation and pressure in T4 and T5.

FILED WLKT/Kothe/Inskeep

10-79 Disclosure received.
10-17-79 Disclosure handed to Kothe for application preparation.
11-12-79 Rodrick here to review.
12-18-79 Draft received.
12-21-79 Executed and sent to WLKT for filing.

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929 OPTICAL PERFORATION MONITOR

G. Forrest, A. Hill, and R. Lowder/R&D/Analytical Division/Bourlas/Osdene

Blish

FILED 10-25-79 Disclosure received - inventors notified.
11-79 Assigned to Blish.
11-16-79 Prior art sent to inventors for review.
12-4-79 First draft completed--sent to inventors for review.
1-24-80 Executed and mailed to the Patent Office.

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